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DOCKET NO. CHAUDHRY 27-25-30-191-11 **PATENT**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Samir Chaudhry, et al.

Serial No.: 10/762,788

Filed: January 22, 2004

For: MOS TRANSISTOR AND METHOD OF MANUFACTURE

Group No.: 2814

Examiner: Long Pham

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, Alexandria, VA 22313, on
11/16/2005 (Date)
Elizabeth Schumacher (Printed or typed name of person signing the certificate)
Elizabeth Schumacher (Signature of the person signing the certificate)
11/16/2005 (Date of Signature)

FOREIGN SEARCH INFORMATION DISCLOSURE STATEMENT

In accordance with 37 C.F.R. §1.56 and the provisions of 37 C.F.R. §§1.97 and 1.98 and §609 of the Manual of Patent Examining Procedure, Applicant hereby makes a disclosure of the patents, publications and other information listed below and on the accompanying form IDS by Applicant, which may be potentially material to the patentability of the invention disclosed in the above-referenced application. Pursuant to § 1.97(e) the Applicant hereby states that each item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement.

U.S. Patent No.	Inventor	Date
4,851,370	Doklan et al.	July 25, 1989

Foreign Patent No.	Country	Date
11026754	Japan	01/29/1999
9283748	Japan	10/31/1997
11097687	Japan	04/09/1999
9045904	Japan	02/14/1997
1-204435	Japan	08/17/1989
8288510	Japan	11/01/996

Applicant hereby certifies that each item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the statement.

As attorney for the Applicant, I am signing below on the basis of the information supplied by an individual designated in § 1.56(c).

The Commissioner is hereby authorized to charge any fees or credit any overpayments to Deposit Account No. 08-2395.

Respectfully submitted,

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PTO/SB/08A (07-05)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 1

Complete if Known	
Application Number	10/762,788
Filing Date	January 22, 2004
First Named Inventor	Samir Chaudhry, et al.
Art Unit	2814
Examiner Name	Long Pham
Attorney Docket Number	CHAUDHRY 27-25-30-191-11

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US- 4,851,370	07/25/1989	Doklan et al.	
		US-			
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FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]
		JP 11026754	01/29/1999	Fujitsu Ltd.		
		JP 9283748	10/31/1997	Matsushita Electric Ind.		
		JP 11097687	04/09/1999	Fujitsu Ltd.		
		JP 9045904	02/14/1997	Matsushita Electronics Co		
		JP 1-204435	08/17/1989	American Telephone & Tel.		
		JP 8288510	11/01/1996	Sony Corp.		

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

EXAMINER'S OFFICE LETTER

SEP 20 2005
(Mailing Date: SEP 26 2005)

To: Applicant (Lucent Technologies Inc.)

Appeal Examiner : T. WATABIKI

"AN SEMICONDUCTOR DEVICE"*)

Patent Application No. 2000-190016

[*)... The original title of the invention "MOS TRANSISTOR AND METHOD MANUFACTURE" was revised as the above title by Lucent Technologies Japan Ltd. when filing this Japanese patent application.]

The above-identified application is to be refused for the reasons as put down. A reply to the present office action must be filed before DEC 26, 2005 (three-month extensible).

= Notes =

Reason 1

The inventions as recited in Claims 1-40 are unpatentable under Article 29, Paragraph 1, Item 3 of the Japanese Patent Law because of lack of novety over each of the listed prior art References 1-5.

Reason 2

The inventions as recited in Claims 1-40 are unpatentable under Article 29, Paragraph 2 of the Japanese Patent Law because of obviousness from the listed prior art References 1-5.

Reason 3

The specification fails to satisfy the formality requirements as prescribed in Article 36, Paragraph 4 of the Japanese Patent Law.

Reason 4

The claims fail to satisfy the formality requirements as prescribed in Article 36, Paragraph 6, Item 2 of the Japanese Patent Law.

Remarks:

<Regarding Claims 1-40>

The inventions recited in these claims are anticipated by and/or obvious from the listed prior art References 1-5.

(Note)

An electric field effect transistor whose gate length is 1.25 μm or less and which has no LDD region is well known as disclosed in, for example, Reference 1 (paragraphs [0006] and [0015] to [0020]), Reference 2 (paragraphs [0003] and [0007] to [0011]), Reference 3 (paragraphs [0044] to [0055]) and Reference 4 (paragraphs [0014] to [0017]).

In addition, in the claims 7, 11, 18, 22, 31, 32, 39 and 40, the doping concentrations of a source and drain region or a channel region is limited in numeral, but the limited numeral values are only values which may be usually taken; therefore the adoption of these values of the doping concentrations is recognized to have been able to the properly made by one skilled in the art.

And, as to the claims 10 and 21, it is a matter which is to be naturally considered by one skilled in the art that the interface between the oxide layer and the substrate is substantially plane and stress-free (see, for the example, the column of "Action" in Reference 5).

<Regarding Claims 26 and 34>

These claims are to be refused for Reason 4.

Each of the claims 26 and 34 recites that "said channel is doped by a halo implantation".

However, the term "halo implantation (pocket implantation)" means an implantation performed so that after forming a gate electrode an impurity region having a higher density than that of a channel region is formed on both sides of the channel region, and it does not mean an implantation of impurities to form the channel region (for example, as indicated in JP Laid-Open Gazette No. 8-288510 (Reference a), the pocket region is a region extending from both sides of a gate electrode toward a central part, and this region is different from the channel region).

Accordingly, the invention defined by each of the claims 26 and 34, in which the "channel" is doped by the "halo implantation", is indefinite in its constitution.

<Regarding Specification>

The specification is to be refused for Reason 3.

(A) In the specification, as to a method for forming the channel, it is described at page 5, lines 23-25 that "the channel doping is raised via tilted "halo" or "pocket" implants 30 of the same conductivity type as the channel.", but this description is unclear in its technical meaning.

Even if the above description in the specification is read to mean the doping for the channel by the halo implantation as ercited in the claims 26 and 34, as pointed out in the above, since the halo region (or pocket region) refers to a region different from the channel region, its technical meaning still remains unclear.

In addition, in the specification, the channel forming method is described nowhere except for the portion at page 5, lines 22-28.

Accordingly, since it is not clearly described in the specification how the channel is formed, it is not recognized that the specification discloses the present invention clearly and sufficiently in such a manner that the present invention can be carried out by one skilled in the art.

(B) It is unclear what is meant by the "implants 30" described at page 5, line 24 in the specification. Even referring to Fig. 3, it is unclear what part of the structure shown in Fig. 3 corresponds to the "implants 30".

= List of Prior Arts References=

Reference 1: JP Laid-Open Gazette No. 11-26754

Reference 2: JP Laid-Open Gazette No. 9-283748

Reference 3: JP Laid-Open Gazette No. 11-97687

Reference 4: JP Laid-Open Gazette No. 9-45904

Reference 5: JP Laid-Open Gazette No. 1-204435

<Record of Search Result for Prior Art References.>

· Searched Field: IPC Version 7

H01L 29/78, H0iL 21/336